

**PHOTOACOUSTIC SPECTROSCOPY SAMPLE ARRAY VESSELS
AND PHOTOACOUSTIC SPECTROSCOPY METHODS FOR USING THE SAME**

Abstract of the Invention

5 Methods and apparatus for simultaneous or sequential, rapid analysis of multiple samples by photoacoustic spectroscopy are disclosed. Particularly, a photoacoustic spectroscopy sample array vessel including a vessel body having multiple sample cells connected thereto is disclosed. At least one acoustic detector is acoustically positioned near the sample cells. Methods for analyzing the multiple samples in the sample array vessels
10 using photoacoustic spectroscopy are provided.